Attorney docket TAIW 155

IN THE SPECIFICATION

Paragraph at page 4, line 10:

FIG. 4 is a schematic view of the neighboring ~~plaquettes~~ polygons; and

Paragraph at page 5, lines 12-26:

After the 3D model is textured with the image, if there are other images to be extracted and mapped onto the model, ~~images~~ they are processed with the following three-level procedure, the image-level adjustments (step 104), the texture-level adjustments (step 105), and the pixel-level adjustments (step 106). Please refer to FIG. 2. Before two images are combined, the method first divides the 3D textured model and the image into projections of several polygons (step 201). Of course, the same spatial coordinates have to be used during the division transformation. The overlapped polygons are then extracted (step 202). These overlapped polygons are used to compute the statistics of the brightness of the pixels (step 203). Then, the pixel intensity of the whole image is ~~then~~ adjusted according to (step 204). The formula for this adjustment is as follows:

$$I_s'(x_i,y_i) = I_s(x_i,y_i) - \mu_s + \mu_b$$

where μ_s is the averaged pixel intensity of the overlapped polygon on the 3D model; μ_b is the averaged pixel intensity of the overlapped polygon of the input image; $I_s(x_i,y_i)$ is the pixel intensity of each point on the 3D model: and $I_s'(x_i,y_i)$ is the adjusted pixel intensity of each point on the 3D model.

Paragraphs at page 6, line 21 to page 7, line 22:

The method then performs texture blurring (step 302). The averaged intensity μ_{s0} of the texture corresponding to each polygon is first computed (FIG. 4). The averaged intensities $\mu_{s0} \sim \mu_{s10}$ of the surrounding polygon textures are also computed. The formula

$$\mu'_{s0} = \sum_i w_i \mu_{si}$$

is then used to compute the destination intensity. The weight is determined using different conditions (such as distance and brightness). This makes the texture of each polygon match with its surrounding ones. The boundaries of neighboring ~~plaquettes~~ polygons are thus blurred and smoothed. Of course, the polygons shown in the drawing are triangular. However, any geometrical shape can be used.

Finally, step 106 performs the pixel-level adjustments. With reference to FIG. 5, an arbitrary polygon is selected (step 501). The method determines whether it has a discontinuous color variation from the neighboring polygon textures (step 502). If there is a discontinuous color change between the textures, then pixel intensity modification process is invoked. Otherwise, the method updates internal texture pixels (step 506) and ensures all the other polygons if there are any not processed yet (step 507). The pixel intensity modification process consists of threes steps: Firstly, a pixel, p, is extracted from the boundary (step 503). The method searches another image point in neighboring ~~plaquette~~ polygon textures that is closest to the boundary pixel p. The pixel intensity of the boundary image point is set to be weighted average of the two (step 504). The pixel intensities before and after the adjustment are recorded so that the difference can be used to adjust the intensities of other pixels inside the polygon (step 505). The pixel intensity adjustment inside the polygon is done using the following formula: